AUTODOC CLUB

How to change front wheel bearing on **BMW X3 E83** – replacement guide

VIDEO TUTORIAL

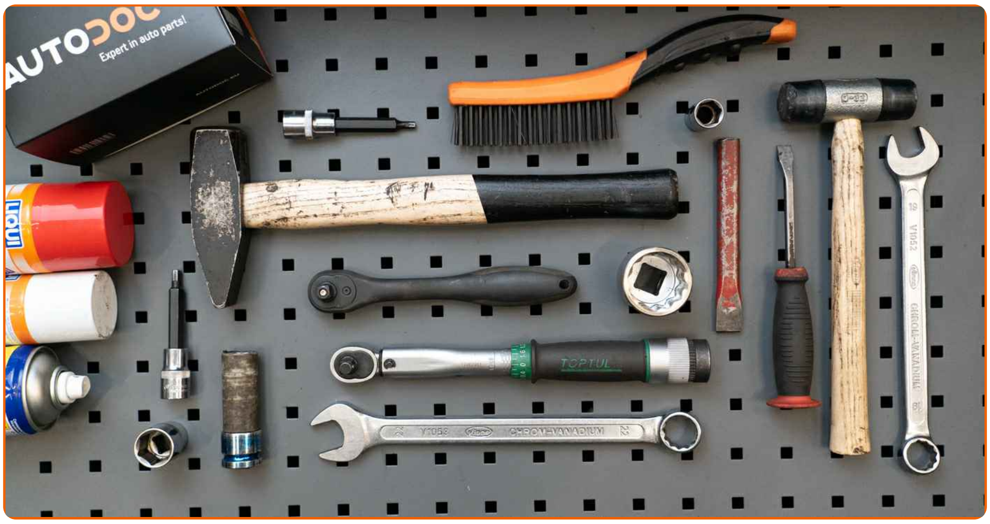


Important!

This replacement procedure can be used for:
BMW X3 (E83) xDrive 20 d, BMW X3 (E83) xDrive 30 d, BMW 3 Saloon (E90) 320d xDrive 2.0, BMW X5 (E53) 4.4 i, BMW X5 (E53) 3.0 d, BMW X5 (E53) 4.6 is, BMW X3 (E83) xDrive 30 i, BMW X5 (E53) 3.0 i, BMW X3 (E83) 3.0 i xDrive, BMW X3 (E83) 2.5 i, BMW X3 (E83) 3.0 d, BMW X5 (E53) 4.8 is, BMW X3 (E83) 2.0 d, BMW X3 (E83) 2.0 i, BMW 5 Saloon (E60) 525xi 2.5, (+ 73)

The steps may slightly vary depending on the car design.

REPLACEMENT: WHEEL BEARING – BMW X3 E83. LIST OF THE TOOLS YOU'LL NEED:



- Wire brush
- WD-40 spray
- Brake cleaner
- Copper grease
- Combination spanner #18
- Combination spanner #22
- HEX bit no.H5
- HEX bit no.H6
- Drive socket # 16
- Drive socket # 22
- Drive socket # 36
- Wheel impact socket #17
- Ratchet wrench
- Torque wrench
- Flat Screwdriver
- Flat chisel
- Hammer
- Rubber mallet
- Bush and bearing driver set
- Circlip pliers
- Crow bar
- Wheel chock

BUY TOOLS

Replacement: wheel bearing – BMW X3 E83. AUTODOC experts recommend:

- Do not re-use the bearing assembly of your BMW X3 E83 car.
- The wheel hub bearing replacement procedure is identical for both wheels on the same axle.
- All work should be done with the engine stopped.

REPLACEMENT: WHEEL BEARING – BMW X3 E83. RECOMMENDED SEQUENCE OF STEPS:

1 Secure the wheels with chocks.



2 Loosen the wheel mounting bolts. Use wheel impact socket #17.



3 Raise the front of the car and secure on supports.

4 Unscrew the wheel bolts.



Replacement: wheel bearing – BMW X3 E83. Tip:

- To avoid injury, hold up the wheel when unscrewing the bolts.

5 Remove the wheel.



6 Clean the fastener of the driveshaft. Use a wire brush. Use WD-40 spray.

7 Loosen the fastener of the driveshaft. Use a drive socket #36. Use a ratchet wrench.



8 Clean the brake caliper bracket fasteners. Use a wire brush. Use WD-40 spray.



9 Unscrew the caliper bracket fastening. Use a drive socket #16. Use a ratchet wrench.



10 Spread the brake pads. Use a crowbar.



11 Remove the brake caliper together with its bracket.



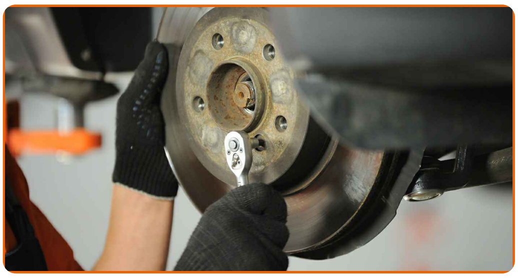
Replacement: wheel bearing – BMW X3 E83. AUTODOC recommends:

- Tie the caliper to the suspension or to the body with a wire without disconnecting from the brake hose to prevent depressurization of the brake system.
- Make sure that the brake caliper is not hanging on the brake hose.
- Don't press the brake pedal after the brake caliper has been removed. As a result, the piston can fall out from the brake cylinder, and brake fluid leakage and depressurization of the system may occur.
- Check the brake caliper bracket, brake caliper guide pins and boots. Clean them. Replace, if necessary.

12 Clean the brake disc fasteners. Use a wire brush. Use WD-40 spray.



13 Unscrew the brake disc fastening. Use HEX No.H6. Use a ratchet wrench.



14 Remove the brake disc.



15 Clean the fastener connecting the ball joint to the steering knuckle. Use a wire brush. Use WD-40 spray.

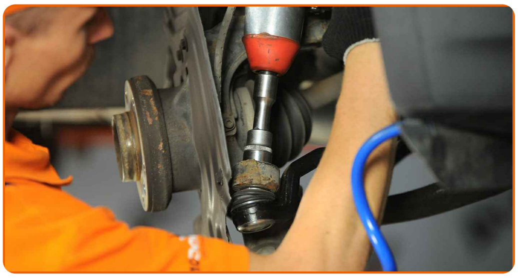
16 Unscrew the fastener connecting the ball joint of the rear control arm to the steering knuckle. Use a combination spanner #22.



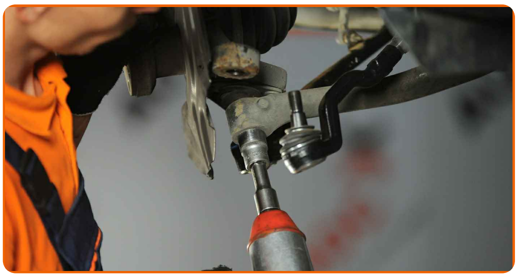
17 Detach the rear control arm from the steering knuckle. Use a crowbar. Use a hammer.

18 Clean the fastener connecting the tie rod end to the steering knuckle. Use a wire brush. Use WD-40 spray.

19 Unscrew the end fastening nut to the steering knuckle. Use a drive socket #22. Use a ratchet wrench.



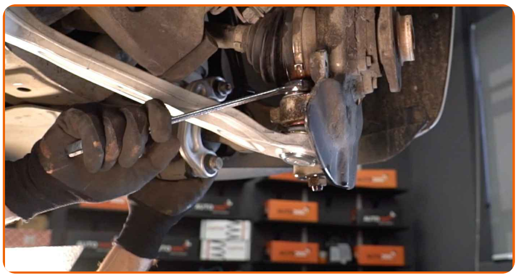
20 Disconnect the tie rod end from the steering knuckle. Use a hammer.



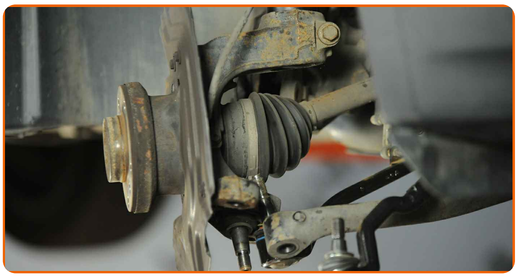
21 Clean the fastener connecting the ball joint to the steering knuckle. Use a wire brush. Use WD-40 spray.



22 Unscrew the fastener connecting the ball joint of the front control arm to the steering knuckle. Use a drive socket #22. Use a ratchet wrench.



23 Detach the front control arm from the steering knuckle. Use a hammer.



24 Clean the ABS sensor fastener. Use a wire brush. Use WD-40 spray.

25 Unscrew the ABS sensor fastener. Use HEX No.H5. Use a ratchet wrench.

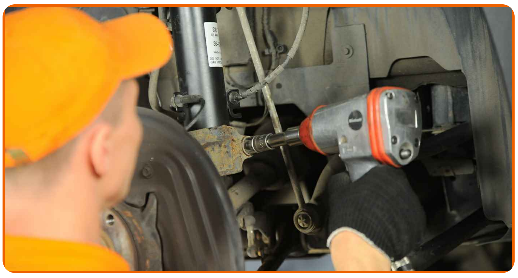


26 Disconnect the ABS sensor.



27 Clean the fasteners connecting the shock strut to the steering knuckle. Use a wire brush. Use WD-40 spray.

28 Unscrew the lower fastener connecting the shock strut to the steering knuckle. Use a combination spanner #18. Use a drive socket #16. Use a ratchet wrench.



29 Remove the fastening bolt.



30 Remove the drive shaft. Use a flat screwdriver.

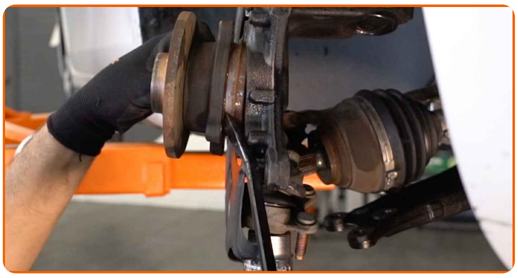


Replacement: wheel bearing – BMW X3 E83. Tip from AUTODOC:

- If necessary, use a rubber mallet.

31 Disconnect the steering knuckle from the shock absorber strut. Use a hammer.

32 Remove the steering knuckle together with the hub.



33 Press the wheel hub out from the tapered roller bearing. Use a bush and bearing driver set. Use a hammer.



34 Remove the retaining ring from the steering knuckle. Use circlip pliers. Use a flat screwdriver.



35 Press out the wheel hub bearing. Use a bush and bearing driver set.



36 Clean the hub bearing mounting seat. Use a wire brush. Use WD-40 spray.

37 Press the new bearing in the steering knuckle. Use a bush and bearing driver set. Use a hammer.



Replacement: wheel bearing – BMW X3 E83. AUTODOC experts recommend:

- Check to make sure the wheel hub bearing is positioned correctly. Avoid its misalignment.
- Stop pressing on the surface of the bearing immediately after it has been fitted into its mounting seat.

38 Install the retaining ring in the steering knuckle. Use circlip pliers.



39 Press the wheel hub into the bearing inner race. Use a bush and bearing driver set.



40 Install the steering knuckle with a hub in assembly.



41 Treat the shock strut mounting seat on the steering knuckle. Use a wire brush. Use WD-40 spray.



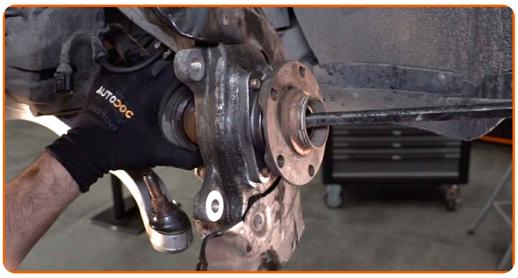
42 Fix the shock absorber strut on the steering knuckle. Use a hammer.

43 Install the fastening bolt.

44 Tighten the lower fasteners connecting the shock strut to the steering knuckle. Use a combination spanner #18. Use a drive socket #16. Use a torque wrench. Tighten it to 100 Nm torque.



45 Mount the drive shaft into the wheel hub.



46 Attach the front control arm to the steering knuckle.

47 Screw in the fastener connecting the ball joint of the front control arm to the steering knuckle. Use a drive socket #22. Use a torque wrench. Tighten it to 80 Nm torque.



48 Connect the ABS sensor to the steering knuckle.

49 Screw in the fastener that connects the ABS sensor to the rear knuckle. Use HEX No.H5. Use a ratchet wrench.



50

Connect the tie rod end to the steering knuckle.



51

Tighten the fastening nut connecting the tie rod end to the steering knuckle. Use a drive socket #22. Use a torque wrench. Tighten it to 80 Nm torque.



52

Attach the rear control arm to the steering knuckle.

53

Screw in the fastener connecting the ball joint of the rear control arm to the steering knuckle. Use a combination spanner #22. Use a crowbar. Use a torque wrench. Tighten it to 60 Nm torque.



54

Clean the hub. Use a wire brush. Treat the contacting surface. Use copper grease.



55

Install the brake disc.



56

Tighten the brake disc fastening. Use HEX No.H6. Use a torque wrench. Tighten it to 9 Nm torque.



57

Clean the mounting seats of the caliper and its bracket. Use a wire brush. Use WD-40 spray.

58

Install the brake caliper together with its bracket.



59

Tighten the brake caliper bracket. Use a drive socket #16. Use a torque wrench. Tighten it to 110 Nm torque.



60 Tighten the drive shaft nut. Use a drive socket #36. Use a torque wrench. Tighten it to 280 Nm torque.



61 Restake the fastener of the driveshaft. Use a flat metal-working chisel. Use a hammer.



62 Treat the surface where the brake disc contacts the wheel rim. Use copper grease.



63 Clean the brake disk surface. Use a brake cleaner.



AUTODOC recommends:

- Replacement: wheel bearing – BMW X3 E83. After applying the spray, wait a few minutes.

64

Install the wheel.



Replacement: wheel bearing – BMW X3 E83. Professionals recommend:

- To avoid injury, hold up the wheel when screwing in the fastening bolts.

65

Screw in the wheel bolts. Use wheel impact socket #17.



66

Lower the car and working in a cross order, tighten the wheel bolts. Use wheel impact socket #17. Use a torque wrench. Tighten it to 130 nm torque.



AUTODOC recommends:

- BMW X3 E83 – Without starting the engine, press the brake pedal several times until it feels firm.

67

Remove the jacks and chocks.

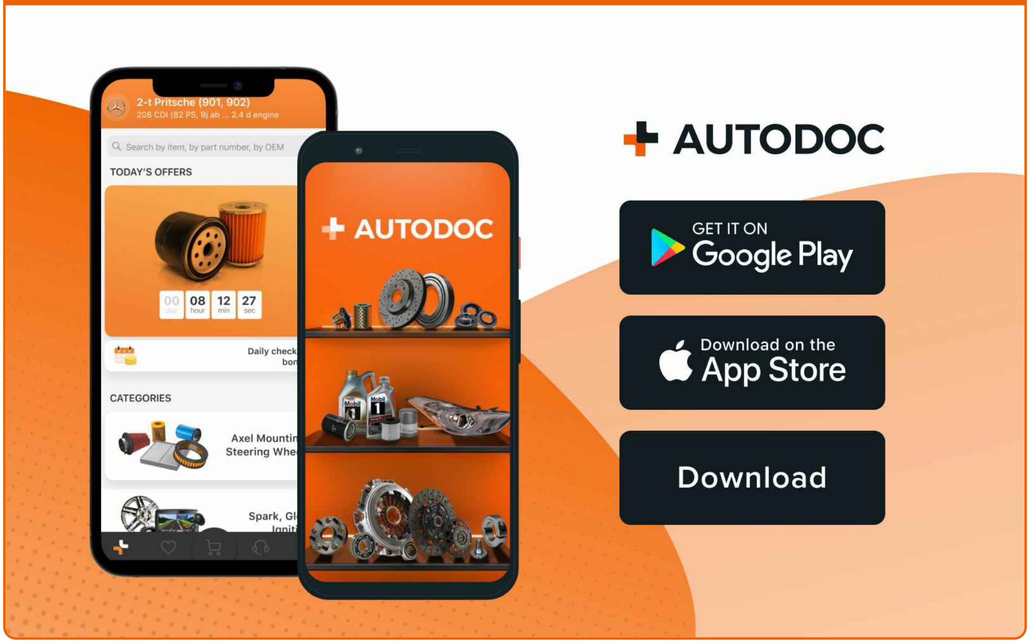


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